

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/10309

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl<sup>7</sup> C12N 15/54, 9/10, 5/10, C12Q 1/68, C07K 16/40, G01N 33/53, 33/566, 33/574  
//C12P 21/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> C12N 15/00-15/90, 9/00-9/99, 5/10, C12Q 1/68, C07K 16/40Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Japanese Utility Model Gazette 1926-1996, Japanese Publication of Unexamined Utility Model Applications 1971-2001, Japanese Registered Utility Model Gazette 1994-2001, Japanese Gazette Containing the Utility Model 1996-2001

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

BIOSIS/WPI (DIALOG), MEDLINE (STN), JSTPlus (JOIS)  
PIR/SwissProt/GeneSeq, DDBJ/EMBL/GenBank/GeneSeq

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	WO 01/53524 A2 (THE NOTTINGHAM TRENT UNIVERSITY) 2001.07.26 & EP 1250457 A2	15 1-14, 16-19
A	WO 01/90369 A1 (SHANGHAI BIOWINDOW GENE DEVELOPMENT INC.) 2001.11.29 & CN 1323895 A	1-19
A	JP 2001-165933 A (TAIHO PHARM.CO., LTD.) 2001.06.22 (NO FAMILY)	1-19



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;"

document member of the same patent family

Date of the actual completion of the international search

12.11.03

Date of mailing of the international search report

25.11.03

Name and mailing address of the ISA/JP

Japan Patent Office

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Internal application No.

PCT/JP03/10309

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	NEELEMAN A.P.et al. alpha-Lactalbumin affects the acceptor specificity of Lymnaea stagnalis albumen gland UDP-GalNAc:GlcNAcbeta-R beta1-4-N-acetylgalactosaminyltransferase: Synthesis of GalNAcbeta1-4Glc. Proc.Natl.Acad.Sci.USA 1996,Vol.93,p.10111-10116	1-19
A	GOTOH M.et al. Enzymatic Synthesis of Chondroitin with a Novel Chondroitin Sulfate N-Acetylgalactosaminyltransferase That Transfers N-Acetylgalactosamine to Glucuronic Acid in Initiation and Elongation of Chondroitin Sulfate Synthesis. J.Biol.Chem. Oct.11,2002(Epub Aug.5,2002), Vol.277,No.41,p.38189-38196	1-19
A	KAWAR Z.S.et al. Molecular Cloning and Enzymatic Characterization of a UDP-GalNAc:GlcNAcbeta-R beta-1,4-N-Acetylgalactosaminyltransferase from Caenorhabditis elegans. J.Biol.Chem. Sept.20,2002(Epub Jul.11,2002), Vol.277,No.38,p.34924-34932	1-19

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## Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 20-23  
because they relate to subject matter not required to be searched by this Authority, namely:  
The subject matter of claim 20-23 relates to [diagnostic methods practiced on the human body], which does not require an intentional search by the International Searching Authority in accordance with PCT Article 17(2)(a)(i) and [Rule 39.1(iv)].
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The present application is including two inventions which are the isolated proteins called NGalNAc-T1 and NGalNAc-T2, and the feature common to them is an isolated protein having the activity of transferring N-acetylgalactosamine to N-acetylglucosamine via a beta 1-4 linkage. However, the search has revealed that this protein is not novel since it is electronically disclosed by KAWAR Z.S. et al. (in J. Biol. Chem. Jul. 11, 2002, Vol. 277, No. 38, p. 34924-34932). Since there exists no other common feature which can be considered as a special technical feature within the meaning of PCT Rule 13.2, second sentence, no technical relationship within the meaning of PCT Rule 13 between the different inventions can be seen.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
claim 1-19 related to NGalNAc-T1

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☒ No protest accompanied the payment of additional search fees.